

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. Please add new claims 4-20.

1. (Currently Amended) A piping connector comprising:

a socket in a tubular shape ~~for attached~~ attaching to an end of one pipe ~~to be~~
~~connected~~; and

a plug in a tubular shape ~~for attached~~ attaching to an end of an other pipe,
wherein[[:]],

the socket ~~is provided with~~ comprises a pair of notched grooves at peripheral ~~faces on~~
both opposite sides ~~opposed to each other~~, the notched grooves are mounted with a stopper
~~constituting~~ comprising a ~~gate-like~~ U-shape[[:]],

the plug ~~is provided with~~ comprises a first taper portion, a flat portion and a second
taper portion ~~continuously~~ extending respectively from a front end side ~~thereof in a sectional~~
~~shape thereof and~~ along an axial direction ~~thereof of the plug, and~~ a groove for fitting the
stopper is being formed at a ridge portion of the second taper portion[[:]], and

an inner periphery of the socket is arranged with a seal ring for sealing ~~an interval~~
between the inner periphery of the socket and an outer periphery of the plug in an airtight
connection, and in a procedure of inserting the plug into the socket, after the seal ring reaches
~~an R-like a radius~~ portion on the plug shifting to between the flat portion ~~from and~~ the first
taper portion, the stopper is ~~constituted to be~~ brought into contact with the second taper
portion.

2. (Currently Amended) The piping connector according to Claim 1, wherein before the seal ring passes the ~~R-like~~ radius portion to ride on the flat portion, the stopper is ~~constituted to be~~ brought into contact with the second taper portion.

3. (Currently Amended) The piping connector according to Claim 1, wherein a radius of curvature R of the ~~R-like~~ radius portion in a section of the plug along the axial direction ~~falls in~~ comprises a range of 15 through 50mm.

4. (New) The piping connector according to Claim 1, wherein an inner peripheral edge of the socket comprises:
a first stepped portion formed between a first diameter expanded portion and a second diameter expanded portion; and
a second stepped portion formed between the second diameter expanded portion and a third diameter expanded portion.

5. (New) The piping connector according to Claim 1, wherein an inner peripheral edge of the socket comprises:
a stepped portion mounted with a hold ring, the hold ring having an L-shaped cross-section.

6. (New) The piping connector according to Claim 4, wherein the inner peripheral edge of the socket comprises:
a third stepped portion mounted with a hold ring, the hold ring having an L-shaped

cross-section, and

wherein the third stepped portion is formed between the first and second stepped portions.

7. (New) The piping connector according to Claim 5, wherein the seal ring is mounted and held at a predetermined position between the hold ring and a second stepped portion on the inner peripheral edge of the socket.

8. (New) The piping connector according to Claim 6, wherein the seal ring is mounted and held at a predetermined position between the hold ring and a first stepped portion on the inner peripheral edge of the socket.

9. (New) The piping connector according to Claim 7, wherein the hold ring is mounted to the inner periphery of the socket by permanent attachment means.

10. (New) The piping connector according to Claim 8, wherein the hold ring is mounted to the inner periphery of the socket by permanent attachment means.

11. (New) The piping connector according to Claim 1, wherein an upper half portion of the notched grooves at an outer peripheral edge of the socket comprises a pair of opposing ribs projecting from edge portions of the notched grooves, and wherein the pair of opposing ribs retains the stopper.

12. (New) The piping connector according to Claim 4, wherein an upper half portion of the notched grooves at an outer peripheral edge of the third diameter expanded portion comprises a pair of opposing ribs projecting from edge portions of the notched grooves, and

wherein the pair of opposing ribs retains the stopper.

13. (New) The piping connector according to Claim 1, wherein a middle portion of the notched groove at an outer peripheral edge of the socket comprises a recess portion along a peripheral direction.

14. (New) The piping connector according to Claim 4, wherein a middle portion of the notched groove at an outer peripheral edge of the third diameter expanded portion comprises a recess portion along a peripheral direction.

15. (New) The piping connector according to Claim 1, wherein a lower end of the notched groove at an outer peripheral edge of the socket comprises a channel-shaped recess portion for containing an end portion of the stopper.

16. (New) The piping connector according to Claim 4, wherein a lower end of the notched groove at an outer peripheral edge of the third diameter expanded portion comprises a channel-shaped recess portion for containing an end portion of the stopper.

17. (New) The piping connector according to Claim 1, wherein the stopper further

comprises:

a forward bent portion at a base portion of the stopper; and
an arc-shaped inwardly bent portion proximate to the base portion of the stopper
formed on an inner side of the stopper.

18. (New) A method of connecting a piping connector, said piping connector comprising a socket containing a seal ring fixably attached to an inner periphery of said socket, a stopper, and a plug comprising a first tapered portion, a radius portion, a flat portion, a second tapered portion and a notch portion for engaging said stopper, all of said plug portions extending respectively from a front end of said plug, the method of connecting comprising:

inserting said plug into said stopper;

engaging said first tapered portion of said plug with said seal ring attached to said socket; and

sliding said plug into said stopper such that after said seal ring reaches the radius portion of said plug, the stopper is brought into engaging contact with the second taper portion.

19. (New) The method of connecting a piping connector according to Claim 18, further comprising:

sliding said plug into said stopper such that before said seal ring passes the radius portion, the stopper is brought into engaging contact with the second taper portion.

20. (New) A piping connector comprising:

socket means for attaching to an end of one pipe, said socket means comprising:

groove means at peripheral opposite sides of said socket means for retaining

stopper means mounted in said groove means, said stopper means for providing a

locking connection relative to said socket means; and

seal ring means fixably mounted on an inner periphery of said socket for
providing airtight sealing; and

plug means for attaching to an end of an other pipe, said plug means comprising:

a first taper portion;

a radius portion;

a flat portion;

a second taper portion; and

groove portion for engaging said stopper means;

wherein all said portions extend respectively from a front end side and along

an axial direction of said plug means, and

wherein said plug means is insertable into said socket means such that after said seal
ring means reaches said radius portion from said first taper portion and before said seal ring
means reaches said flat portion, said stopper means is brought into engaging contact with said
second taper portion.